HARRY HERSBACH
TOOLS BV

specialist in machining tools

COMBIDEX®

solid solutions to improve your business

Technical Information for Multi Turn

THREADING | MILLING | THREAD MILLING | TURNING | DRILLING | GROOVING & PARTING

TECHNICAL INFORMATION FOR MULTI TURN | Code system

Insert

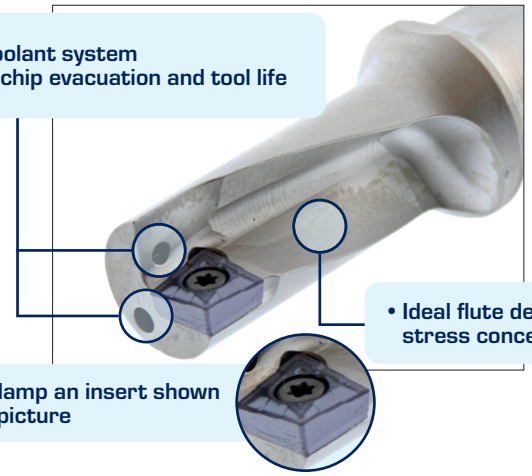
Q	C	M	T	08	03	04	-	CM
Insert shape	Relief angle	Tolerance	Cross section type	Cutting edge length	Height of cutting edge	Nose radius		Chip breaker

Holder

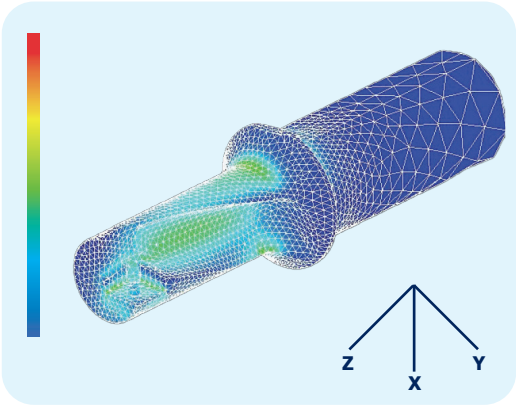
MT	20	R	-	2.25D
Brand Name	Tool Diameter	Hand of Tool		Aspect ratio

Tool design by fem analysis

- Double coolant system
- Excellent chip evacuation and tool life



- Ideal flute design minimizing stress concentrations
- Notice: Clamp an insert shown as in the picture



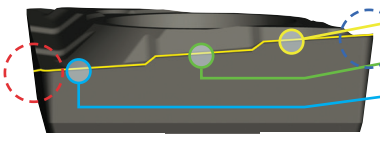
- Minimized stress during cutting, prevented damage from vibration and longer tool life

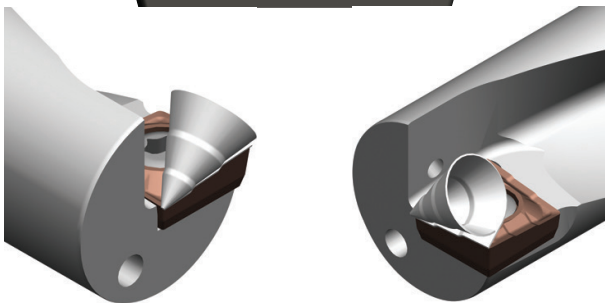
OPTIMIZED DESIGN

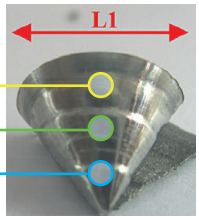
Creative stepping cutting edge

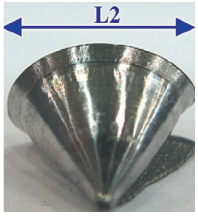
Drilling edge (Drilling)

Turning edge (Internal, external and face turning)







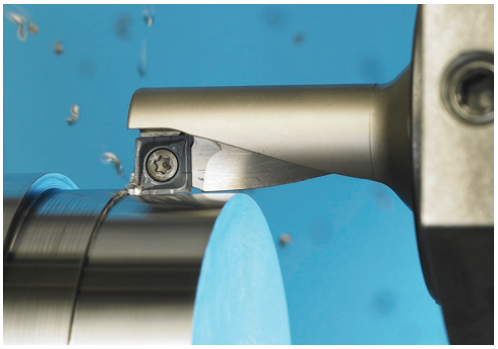


- Special chip formed by edge geometry better chip
- Evacuation due to small radius width of chip curl

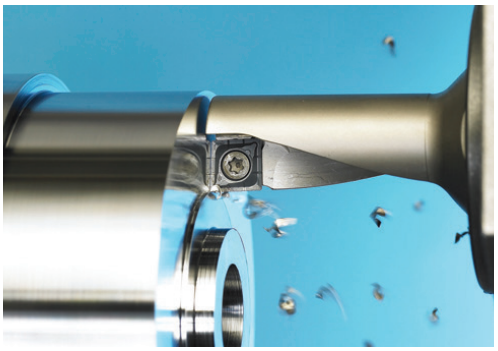
Comparison	Multi turn	Competitor A	Competitor B
Feed fn (mm/rev) = 0.08			
Feed fn (mm/rev) = 0.10			
Chip width (rate)	80%	100%	120%

TECHNICAL INFORMATION FOR MULTI TURN | User's guide

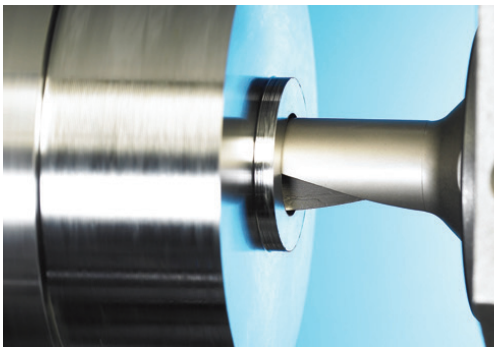
External / Internal turning



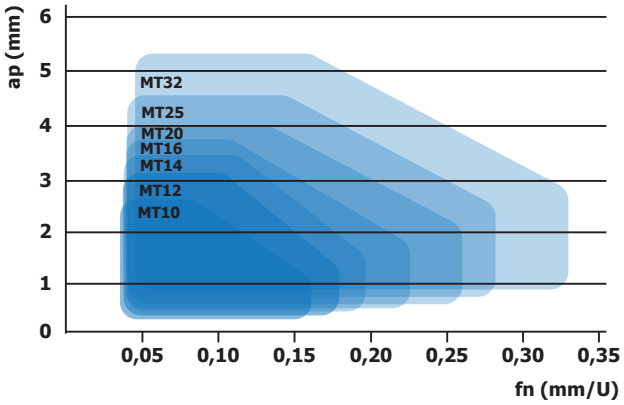
Facing turning



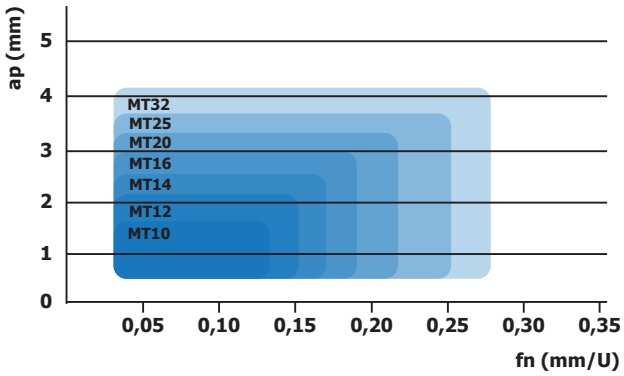
Drilling



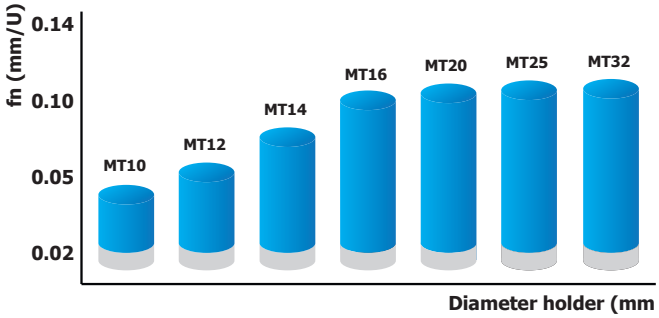
Application range



Application ranges of facing

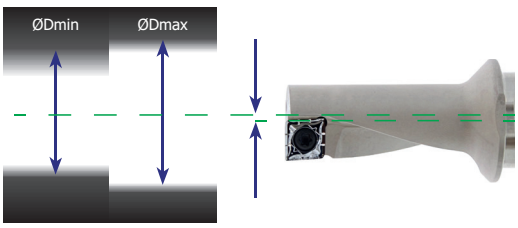


Drilling feed range



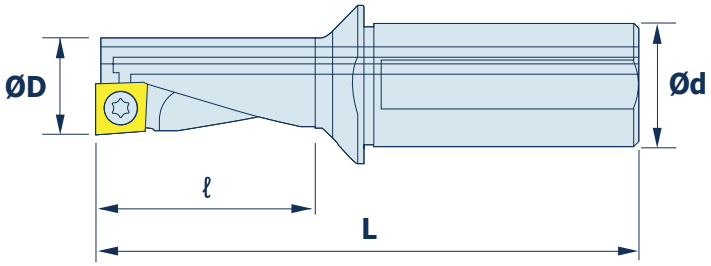
Offset (Diameter compensation)

Disignation	Machined diameter (mm)	ØDmin (mm)	ØDmax (mm)
MT10R/L-2.25D	10	9.85	10.35
MT12R/L-2.25D	12	11.85	12.35
MT14R/L-2.25D	14	13.85	14.35
MT16R/L-2.25D	16	15.85	16.35
MT20R/L-2.25D	20	19.85	20.35
MT25R/L-2.25D	25	24.85	25.35
MT32R/L-2.25D	32	31.85	32.35



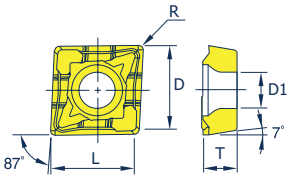
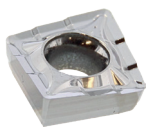
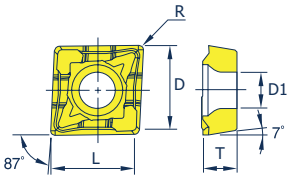
Drill diameter is adjustable by the offset compensation

MULTI TURN | MT (Multi-Turn)



Designation	ØD	Ød	ℓ	L	Insert	Screw	Torx
MT 10R/L-2.25D	10	12	22.5	69.5	QC□T050204	FTNA0204S	TW06P
MT 12R/L-2.25D	12	16	27.0	78.0	QC□T060204	FTNA02205S	TW06P
MT 14R/L-2.25D	14	16	31.5	83.5	QC□T070304	FTKA02555	TW07P
MT 16R/L-2.25D	16	20	36.0	94.0	QC□T080304	FTNA0306	TW09P
MT 20R/L-2.25D	20	25	45.0	111.0	QC□T10T304	FTNA03508	TW15P
MT 25R/L-2.25D	25	32	56.5	130.0	QC□T130408	FTNC04509	TW20S
MT 32R/L-2.25D	32	40	72.0	160.0	QC□T170508	FTNC04511	TW20S

Insert

Picture	Designation	Coated	Uncoated	Dimensions (mm)					Configuration
		MU530	K10	L	D	T	R	ØD1	
	QCMT 050204-CM	•		5.0	5.4	2.10	0.4	2.3	
	QCMT 060204-CM	•		6.0	6.4	2.38	0.4	2.5	
	QCMT 070304-CM	•		7.0	7.4	3.18	0.4	2.8	
	QCMT 080304-CM	•		8.0	8.4	3.18	0.4	3.4	
	QCMT 10T304-CM	•		10.0	10.4	3.97	0.4	4.0	
	QCMT 130408-CM	•		12.7	13.5	4.76	0.8	5.5	
	QCMT 170508-CM	•		16.7	17.5	5.56	0.8	5.5	
	QCGT 050204-CAP		•	5.0	5.4	2.10	0.4	2.3	
	QCGT 060204-CAP		•	6.0	6.4	2.38	0.4	2.5	
	QCGT 070304-CAP		•	7.0	7.4	3.18	0.4	2.8	
	QCGT 080304-CAP		•	8.0	8.4	3.18	0.4	3.4	
	QCGT 10T304-CAP		•	10.0	10.4	3.97	0.4	4.0	
	QCGT 130408-CAP		•	12.7	13.5	4.76	0.8	5.5	
	QCGT 170508-CAP		•	16.7	17.5	5.56	0.8	5.5	

MULTI TURN | Recommended cutting condition

Workpiece		Hardness (HB)	MU530		K10	
			Turning	Drilling	Turning	Drilling
P	Low-carbon steel (≤ 0.25% C)	80 - 180	100 - 180	100 - 150	-	-
	Low-carbon steel (≤ 0.25% C)	180 - 280	90 - 160	60 - 140	-	-
	Low alloy steel	140 - 260	70 - 120	50 - 120	-	-
	High alloy steel	200 - 350	60 - 110	50 - 100	-	-
M	Austenite	135 - 275	80 - 150	50 - 110	-	-
	Martensite	135 - 275	90 - 170	60 - 120	-	-
K	Gray cast iron	150 - 220	120 - 240	120 - 200	-	-
	Ductile cast iron	130 - 240	120 - 200	100 - 180	-	-
N	Aluminium alloy	30 - 150	-	-	200 - 500	140 - 220
	Copper alloy	150 - 160	-	-	150 - 300	140 - 200
S	HRSA	130 - 400	30 - 70	30 - 90	-	-